

AGENDA
CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE (CTCDC)

August 22, 2002 MEETING
4120A Taylor Street, San Diego 92186

TIME 9:00 AM

ORGANIZATION ITEMS

| | Estimated Time |
|---|-----------------------|
| 1. INTRODUCTION | 9:00 |
| 2. APPROVAL OF MINUTES (May 8, 2002 MEETING) | 9:10 |
| 3. PUBLIC COMMENTS | 9:15 |
| At this time, members of the public may comment on any item not appearing on the agenda. Matters presented under this item cannot be discussed or acted upon by the Committee at this time. For items appearing on the agenda, the public is invited to make comments at the time the item is considered by the Committee. Any person addressing the Committee will be limited to a maximum of five (5) minutes so that all interested parties, have an opportunity to speak. At all times, please state your name, address, and business or organization for the record. | |

AGENDA ITEMS

| | | |
|--|--|----------------------------------|
| 4. PUBLIC HEARING | | 9:30 |
| Prior to adopting rules and regulations prescribing uniform standards and specifications for all official traffic control devices placed pursuant to Section 21400 of the California Vehicle Code (CVC), the Department of Transportation is required to consult with local agencies and hold public hearings. | | |
| 02-7 | PUSH BUTTON FOR CROSSWALK WARNING LIGHTS, WATCH FOR TRAFFIC (R62E) SIGN | (Introduction) 9:45 (Meis) |
| 02-8 | FINES HIGER SIGN (Red Light Violation Fine Sign) (Experiment Request by the TSCN in Santa Clara Co.) | (Introduction) 10:00 (Meis) |
| 02-9 | MANDOTARY REQUIREMENT OF ACCESSIBLE PEDESTRIAN SIGNALS | (Introduction) 10:30 (Larsen) |
| 02-13 | PROPOSED CHANGES TO CHAPTER 9 -TRAFFIC SIGNALS AND LIGHTING (Traffic Manual) | (Introduction) 11:30 (Fisher) |
| Lunch Break | | 12:30-1:30 |
| 5. REQUEST FOR EXPERIMENATION | | |
| 99-18 | GROUND MOUNTED LED LIGHTS ON STOP BARS (Expansion of Experimentation, Requested By the City of El Segundo) | (Introduction) 1:30 (Fisher) |
| 02-10 | PEDESTRAIN COUNTDOWN SIGNAL HEADS (PCSHS) (To review ongoing experimentation with PCSHs) | (Continued) 2:00 (Larsen) |

| | | | |
|-------|--|----------------------------|------|
| 01-12 | BLINKERSTOP SIGN (Update by Tapcoo) | (Continued) (Meis) | 2:30 |
| 02-11 | SPEED FEEDBACK (Radar Speed) SIGN (Experiment Request by the City Garden Grove) | (Introduction) (Fisher) | 3:00 |

6. DISCUSSION ITEMS

| | | | |
|-------|---|----------------------------|------|
| 02-5 | ESTABLISHMENT OF SPEED LIMIT ZONES BASED ON THE ENGINEERING AND TRAFFIC SURVEY | (Introduction) (Babico) | 3:30 |
| 02-12 | WHEN CHILDREN ARE PRESENT (R72) SIGN | (Introduction) (Meis) | 4:00 |

7. INFORMATIONAL ITEMS

| | | | |
|-------|--|-----------------------|------|
| 99-11 | MUTCD ADOPTION BY CALTRANS (Update by Caltrans) | (Continued) (Meis) | 4:30 |
| | EMERGENCY TRAFFIC ALERT SYSTEM | (Meis) | 4:45 |

8. TABLED ITEMS

| | | | |
|-------|---|-----------------------|------|
| 01-11 | PORTABLE OR TEMPORARY SPEED DISPLAY SIGN (If the speed feedback sign is a traffic control device or not) | (Continued) (Meis) | 5:00 |
|-------|---|-----------------------|------|

9. CORRESPONDENCES/MISCELLANEOUS

Article from San Jose Mercury News "Rules On When To Obey Speed
Limit Near Schools."

Section 3B.13 Raised Pavement Markers Supplementing Other Markings

10. NEXT MEETING**11. ADJOURN**

ITEM UNDER EXPERIMENTATION

- 99-10 TACTILE PEDESTRIAN INDICATORS (Folkers)
(Experiment Agency-The City of Los Angeles) (Fisher)
Status: No update received.
- 99-12 SPEED STRIPING FOR SMART CROSSWALKS (Meis)
(Experiment Agency-Caltrans D7)
Status: Contract has been awarded and Construction will begin shortly.
- 99-13 ILLUMINATED PAVEMENT MARKERS ON (Meis)
MEDIAN BARRIERS (Experiment Agency-Caltrans D7)
Status: The project has not been funded yet.
- 99-18 GROUND MOUNTED LED LIGHTS ON STOP BARS (Meis)
(Experiment Agency-City of Anaheim)
Status: The City of Anaheim has submitted final report, which was mailed to the Committee members.
- 00-1 BICYCLE PAVEMENT MARKING (Banks)
(Experiment Agency-City of San Francisco)
Status: The city has received approval to hire a consultant to do the study.
- 00-3 JAKE BRAKE SIGN (Meis)
(Experiment Agency-City of Auburn)
Status: The signs were installed during the summer of 2001. The post study will be conducted during the summer of 2002.
- 00-6 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Banks)
(Experiment Agency-City of San Francisco)
Status: No further update, the interim report was submitted during the 01/31/02 meeting.
- 00-8 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of San Jose)
Status: The City of San Jose has submitted the final study report during the May 2002 meeting. The Committee allowed continues use of the devices until to reach a final decision.
- 00-9 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of Stockton)
Status: City is working on the final report.
- 01-3 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Fisher)
(Citywide Experiment request by the City of Fountain Valley)
Status: The City has submitted their final report to the Committee and has received approval to expand the experimentation as a citywide.
- 01-4 TACTILE PEDESTRIAN INDICATORE WITH AUDIBLE (Tanda)
INFORMATION (Experiment request by the City of Santa Cruz)
Status: No update.

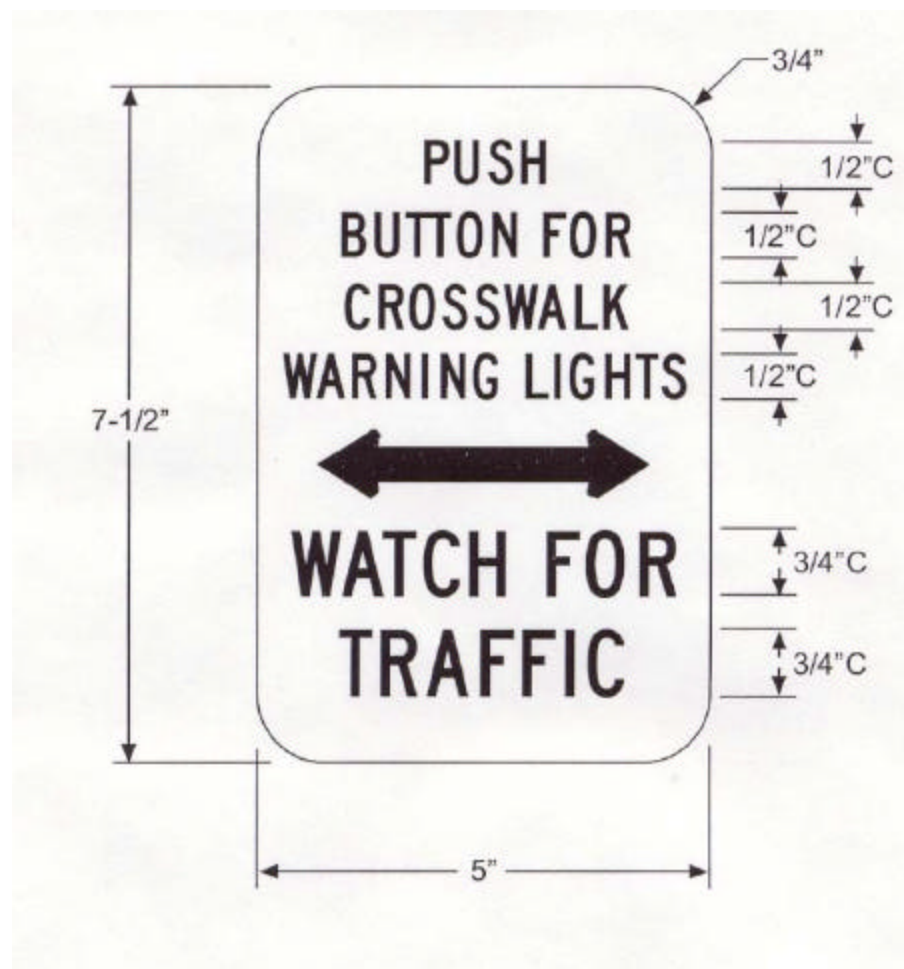
- 01-7 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of Oakland)
Status: The city has received approval from the HHWA and working to acquire funds in the FY 2002-03 budget.
- 01-9 IN-ROADWAY WARNING LIGHTS AT R/R CROSSINGS (Meis)
(Experiment requests by CPUC in cooperation Kern Co. & City of Fresno)
Status: CPUC is in process to hire consultant firm to conduct a study.
- 02-2 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of Berkeley)
Status: The installation of the PCSHs will start later part of the year 2002.
- 02-4 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Larsen)
(Experiment request by the County of San Luis Obispo)

STATUS OF CALTRANS ACTION ON PAST ITEMS

- Item 90-7 **BICYCLE SIGNAL HEADS (BSH)**
The Traffic Manual will be changed to reflect the BSH warrants, so that the public agencies will be able to use the Warrants to install these devices on their roadways.
- Item 93-18 **CROSSWALKS, SEQUENTIAL LIGHTING (In-Roadway Warning Lights (IRWL) at Crosswalks)**
The final text will be posted on the Traffic Operations website as soon as finalized.
- Item 99-3 **AUDIBLE PEDESTRIAN SIGNAL POLICY**
Caltrans will work with the CTCDC, the California Council of the Blind (CCB) and with individuals who are interested in this item to resolve along with the Agenda Item 01-5, "Accessible Pedestrian Signals."
- Item 01-1 **U-TURN SIGNAL HEADS INDICATOR**
Caltrans will develop appropriate standards to ensure visibility and make the U-turn signal head indicator an official traffic control device by inclusion in the Caltrans Traffic manual.
- Item 01-6 **SUPPLEMENT SIGNS ON CHANNELIZERS**
Caltrans will work with the Committee on this item.
- Item 00-4 **USE OF RAISED PAVEMENT MARKERS IN TRANSVERSE PATTERN**
Caltrans will take appropriate action on the recommendation made by the Committee.
- Item 01-5 **ACCESSIBLE PEDESTRIAN SIGNALS**
Caltrans will take appropriate action to adopt the MUTCD verbiage into the Traffic Manual.
- Item 02-3 **RIGHT EDGELINE**
Caltrans will take appropriate action on the recommendation made by the Committee.

02-7 PUSH BUTTON FOR CROSSWALK WARNING LIGHT, WATCH FOR TRAFFIC (R62E)

The proposed sign will be used when in-roadway warning lights (IRWLs) are activated by a pedestrian push button. The message will remind the pedestrians that it is their responsibility to pay attention to the traffic while crossing the roadway. The layout of the sign is as follows:



02-8 FINES HIGHER SIGN (Red Light Violation Fine Sign)

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The Federal Highway Administration proposes (Revision 2, May 21, 2002) adding a new section numbered and titled “Section 2B.15 Fines Higher Sign (R2-6)” into the Manual on Uniform traffic control Devices (MUTCD). The proposed section is as follows:

Section 2B.15 FINES HIGHER Sign (R2-6)**Option:**

The FINES HIGHER (R2-6) sign (see Figure 2B-1) may be used to advise road users when increased fines are imposed for traffic violations within designated roadway segments.

The FINES HIGHER sign may be mounted below an applicable regulatory or warning sign in a temporary traffic control zone, a school zone, or **other applicable designated zones**.

The following may be mounted below the FINES HIGHER sign:

A. A supplemental plaque specifying the times that the higher fines are in effect (similar to the S4-1 plaque shown in Figure 7B-1); or

B. A supplemental plaque WHEN CHILDREN (WORKERS) ARE PRESENT (similar to the S4-2 plaque shown in Figure 7B-1); or

C. A supplemental plaque WHEN FLASHING (similar to the S4-4 plaque shown in Figure 7B-1) if used in conjunction with a yellow flashing beacon.

The legend FINES HIGHER may be replaced by multiple values such as FINES DOUBLE or FINES TRIPLE, or by a **specific value such as \$150 FINE**.

Standard:

The FINES HIGHER sign shall be a rectangle with a black legend and border on a white background. All supplemental plaques mounted below the FINES HIGHER sign shall be rectangles with black legends and borders on white backgrounds.

The FINES HIGHER sign shall include a SCHOOL, WORK ZONE, or other applicable designated zone plaque mounted above the applicable regulatory or warning sign. The SCHOOL supplemental plaque shall be rectangular in shape with a black legend on a yellow or fluorescent yellow-green background (same as S4-3). The WORK ZONE supplemental plaque shall be rectangular in shape with a black legend on an orange background.

Guidance:

If used, the FINES HIGHER sign should be located at the beginning of the temporary traffic control zone, school zone, or other applicable designated zone and just beyond any interchanges, major intersections, or other major traffic generators.

Agencies should limit the use of the FINES HIGHER sign to locations where work is actually underway, or to locations where the roadway, shoulder, or other conditions, including the presence of a school, require a speed reduction or extra caution on the part of the road user.



Traffic Safe Communities Network (TSCN) in Santa Clara County

645 So. Bascom Avenue

San Jose, CA 95128

Tel: (408) 885-7838; Fax: (408) 885-7012

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TSCN Co-Chairs:

- . James T. Beall, Jr.
Board of Supervisors
- . Martin Fenstersheib, MD, MPH
Health Officer

TSCN Project Director:

- . Guadalupe S. Olivas, PhD
Director of Public Health

TSCN Program Manager:

- . Paul Gratz, MS
Public Health Department

Work Group Co-Chairs:

Alcohol & Impaired Driving:

- . Jennifer Ceynowa
American Medical Response
- . Lt. Scott Howland
California Highway Patrol

Assessment/Data:

- . Nhien Luong, MPH
Public Health Department Data
Management & Stats

Bicycle & Pedestrian Safety:

- . Gladwyn d'Souza
Silicon Valley Bicycle Coalition
- . John Cook
Office of the District Attorney

Child Passenger Safety:

- . Tony Norton
Lucile Packard Children's
Hospital & SAFE KIDS Coalition

Red Light Running:

- . Lt. Jon Hernandez
Palo Alto PD
- . Ananth Prasad
SCC Roads & Airports

Participating Agencies

(alphabetical listing)
 ALTRANS
 Bicycle Solutions
 California Highway Patrol,
 San Jose Area
 California State Automobile Assn.
 Caltrans - Region 4
 Campbell PD
 City of Gilroy
 City of Milpitas
 City of Palo Alto
 City of Sunnyvale
 Drinker Drivers Program Assn.
 Friday Night Live
 Los Altos PD
 Los Gatos/Monte Sereno PD
 MADD
 Metropolitan Transportation
 Commission
 Milpitas PD
 Morgan Hill PD
 Mountain View PD
 National Council on Alcoholism &
 Drug Dependence SJ Affiliate
 Office of the District Attorney
 Santa Clara PD
 SCC Board of Supervisors
 SCC Emergency Medical
 Services
 SCC Office of District Attorney
 SCC Roads & Airports
 SCC Sheriff's Office
 San Jose DOT & PD
 Silicon Valley Bicycle Coalition
 State Farm Insurance
 SCVMC Trauma Service
 Sunnyvale PD
 Sunnyvale Public Works
 Walk San Jose

July 3, 2002

Mr. Devinder Singh

Executive Secretary for the CTCDC – MS 36

California Department of Transportation

P.O. Box 94284

Sacramento, CA 94274-0001

PROPOSAL FOR THE EXPERIMENTAL USE OF A NON-STANDARD TRAFFIC CONTROL DEVICE – RED LIGHT VIOLATION FINE SIGN

The Traffic Safe Communities Network (TSCN) of Santa Clara County requests permission to conduct an experiment using advisory signs as a non-standard traffic control device to determine their effectiveness in combination with directed law enforcement, red light monitoring, and community awareness activities for improving traffic safety at 39 signaled intersections identified as high-collision sites.

PROBLEM STATEMENT

From 1994 to 1999, drivers who ran red lights or stop signs in Santa Clara County caused 24 deaths and 8,054 injuries. Red light running is more than just a form of aggressive driving. Increasingly, people are dying and maimed needlessly because of it -- and more than half of those are pedestrians, bicyclists, and occupants of other vehicles. Last year, members of TSCN's Red Light Running Work Group conducted an extensive assessment of Santa Clara County traffic collision data (SWITRS) and identified 39 signaled intersection along El Camino Real and other State Highways that are prone to red light running crashes.

PROPOSED SOLUTION

Beginning in August 2002, TSCN plans to coordinate a high-visibility Stop Red Light Running Partnership Campaign that integrates the installation of experimental advisory signs together with inter-agency law enforcement, red light monitoring, and community awareness activities. This trans-disciplinary approach (3E's: Engineering, Enforcement, and Education) to combating red light running is partially funded by a grant from the California Office of Traffic Safety.

At each of the 39 intersection, 1-4 signs will be posted along the approaches. Modeled on Caltrans's car pool fine sign, the 24" x 30" black on white aluminum device is designed to inform the public of the \$281 minimum fine imposed for a red light violation.

From April through August 2000, TCSN pilot tested the device at three crash-prone intersections and conducted a pre/post project monitoring of commuter hour red light runners that demonstrated reductions ranging from 12% to 60%.

OBJECTIVE

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The objective of the test is to determine the effectiveness and public acceptance of using warning signs in conjunction with directed law enforcement, red light monitoring, and community awareness activities for improving traffic safety and reducing crashes at signaled intersections.

EXPERIMENT SCHEDULE

- **Pre-Installation Crash Evaluation.....September to December 2000, 2001**
- **Installation.....August to December 2002**
- **Experimental PeriodSeptember to December 2002**
- **Evaluation of Results.....March 2003**

Thank you for considering our request. TSCN is looking forward to receiving a positive response from your committee. If you have any questions or comments, please call me at (408) 885-2204.

Sincerely,

Paul Gratz, M.S.
Program Manager
Santa Clara County Public Health Department

Enclosure

cc: Ananth Prasad, Santa Clara County Roads & Airports
 James Beall, Jr., Santa Clara County Board of Supervisors
 Roland Au-Yeung, Caltrans
Dave Doucette, Office of Traffic Safety

Evaluation of the Stop Red Light Running Partnership Campaign
County of Santa Clara
(March – August 2000)

Ongoing 2-Hour Monitoring of Violations Conducted During Afternoon Commute Period

| Intersections | No. of Red Light Violations Observed | | Percent Change |
|---|--------------------------------------|---------------|----------------|
| | Pre-Campaign | Post-Campaign | |
| Bascom & Hamilton (Campbell) | 43 | 38 | 12% decrease |
| Capitol Expressway & Story (San Jose) | 118 | 74 | 60% decrease |
| Great America Parkway & Mission College (Santa Clara) | Not available | Not available | -- |
| Homestead & De Anza (Cupertino) | 114 | 98 | 14% decrease |
| Saratoga & Kiely (San Jose) | Not available | Not available | -- |

Note: Counters from the City of San Jose Department of Transportation performed the observations.

Red-Light Runners Are Just in a Hurry - Silicon Valley Engineers Design Rat Boxes to Plague Them

([Fall 2000 TechTransfer Newsletter](#))

A "rat box" is a low-tech device that helps law enforcement officers catch red-light runners. Ironically, in the heart of hi-tech Silicon Valley, Santa Clara County has decided to use these instead of more sophisticated photo radar systems like those installed in Los Angeles, Sacramento, and San Francisco.

"People in Santa Clara County worry that when they are driving, bicycling, or walking through an intersection, someone might run a red light and hit them," says Paul Gratz of the Santa Clara County Red Sign Running Work Group. The California Highway Patrol reports that between 1994 and 1998 there were 6,839 injuries and 19 deaths in the county caused by drivers failing to stop at either red lights or stop signs. To help re-establish respect for these traffic control devices, the working group targeted five of the county's highest risk, highest volume intersections for installations of the infamous rat box.

Why is this device called a "rat box"? Perhaps because it looks a little like a rat-it has a "nose" and a "tail"-or maybe just because the boxes "rat" on the violator. In any case, the box, which costs about \$100 to construct from parts obtainable off-the-shelf at any consumer electronics store, is wired into the backside of a traffic signal controller and allows enforcement officers stationed downstream to identify, pursue, and cite red-light runners safely and more effectively than by the usual method.

Background

The organized campaign against red-light running got a big boost in 1995 with establishment of the Federal Highway Administration's (FHWA) Stop Red Light Running (SRLR) program. At that time, red-light running was identified as the cause of approximately 22 percent of the more than 1.8 million urban intersection crashes annually. According to the National Highway Traffic Safety Administration (NHTSA) red-light running accounted for 89,000 crashes, 80,000 injuries, and nearly 1,000 deaths nationally in 1998. About 55 percent of drivers actually admit to running an occasional red light, but 96 percent of drivers fear they may be hit by a red-light runner when they enter an intersection. The SRLR program was designed to educate the public on the dangers of red-light running and increase enforcement efforts in communities. In 1998, Daimler Chrysler and the American Trauma Society (ATS) joined FHWA to expand the program. ATS, based in Washington DC, has 180 hospital members and 26 state division chapters; each hospital now has a dedicated campaign coordinator who works with local law enforcement, traffic engineering and safety staff to promote the message that red-light running is dangerous. The SRLR partnership undertook a survey to discover why drivers run lights in the first place. Although some might think the reason is "frustration" or "road rage," actually most drivers are just in a big hurry, according to the survey. Moreover, the group found that about one in three people claimed they knew someone who had been injured or killed in a red-light running crash. This is similar to the percent of people who know someone who has been killed or injured by a drunk driver. Red-light runners fit no demographic profile: they are men and women of all ages, including professionals, blue-collar workers, the unemployed, homemakers, parents, and young adults.

Program Effectiveness

There is little doubt that catching red-light runners does reduce crashes at intersections. Since its inception, the national SRLR program has decreased red-light running incidents for participating

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communities by an average of 15 percent. In February 2000, an FHWA study of photo radar programs in Los Angeles, San Francisco, New York City, Howard County (MD), and Polk County (FL), found that installations of cameras reduced red-light running at those intersections by about 60 percent. In Los Angeles, where cameras are installed at rail grade crossings, intersection violations were down between 34 and 92 percent. Just six months into San Francisco's photo radar program, cameras were found to reduce red-light running by more than 40 percent at monitored intersections.

The Rat Box Alternative

Photo radar systems require no officers for enforcement at intersections, relying on pictures snapped of violators as they run through the red. And though effective on the street, there have been drawbacks. Citations may be thrown out in court, and photo radar systems are expensive, typically costing \$150,000 per unit.

The "rat box" is a simpler, lower cost alternative. It can be constructed in-house for about \$100 worth of parts or purchased from vendors (e.g. the "Tattler"). South Bay communities have found that coordinating installation of rat boxes with public outreach and education can indeed help change driver behavior and re-establish respect for traffic signals, even among the harried. Between March and August 2000, eight detectors (a.k.a. "rat boxes") were installed in Santa Clara along with four warning signs set up to warn approaching drivers about the \$281 fine for red-light violations. Santa Clara County's Public Health Department and California's Office of Traffic Safety provided a total of \$15,000 to install rat boxes and warning signs and to reimburse the cost of law enforcement overtime during the five-month pilot campaign. Partners endorsing the program include the California State Automobile Association, State Farm Insurance, CHP; city and county police departments, boards of supervisors, and public works departments. Sunnyvale liked the results of the initial program so much, that they have recently installed rat boxes at 36 heavily traveled intersections. As usual, the boxes are wired into the back side of a signal controller, allowing officers to station themselves beyond the intersection and still know when the light has turned red, making it easier as well as safer for officers to identify and pursue violators downstream from the intersection. "This is an excellent tool to help us do our job and do it safely and efficiently", said Dave Longanecker a Sunnyvale Public Safety Officer. "When running a red light is a primary collision factor, the collisions are pretty significant. We need to discourage people from breaking the law."

The Sunnyvale project included an evaluation of the impact of the installations. Last year a survey at four intersections demonstrated significant reductions in the number of red-light offenders. Nikki Berces-Mardenly from the Traffic Safety Communities Network program in the county health department is satisfied that the program will reduce injuries caused by red-light running crashes. Sunnyvale Traffic Engineer Mark Blaszczyk said "Red-light running is dangerous to everyone involved, so we are glad to do everything we can to facilitate the work of police officers in decreasing the number of red-light runners."

For more information on Silicon Valley's SRLR activities call Jack Witthaus, Sunnyvale Department of Public Works at (408) 30-7330 or Nikki Berces-Mardenly, Santa Clara County Public Health Department at (408) 885-2207.

Step-by-step guidelines and more information on the FHWA's SRLR program is available by calling (877) STOP-555 or on the web at safety.fhwa.dot.gov/roaduser/srlr.htm.

30"



24"

02-9 MANDOTARY REQUIREMENT OF ACCESSIBLE PEDESTRIAN SIGNALS

During the May 8, 2002 CTCDC meeting, the Committee decided that the mandatory requirement of accessible pedestrian signals (APSs) will be placed on the agenda for the August 2002 CTCDC meeting. Public hearing testimony presented during the May 8, 2002 meeting suggested that whenever an agency provides pedestrian provisions at a signalized intersection, they shall provide APSs for the visually impaired pedestrians, according to Americans with Disabilities Act (ADA) guidelines. It is the opinion of some that it is a violation of the ADA guidelines when agencies do not include devices for visually impaired pedestrians when installing devices for sighted pedestrians. The item 01-5, "accessible pedestrian signals" address this matter in detail.

02-13 PROPOSED CHANGES TO CHAPTER 9 -TRAFFIC SIGNALS AND LIGHTING

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Section 9-04.1 Introduction**Add the following sentence:**

“Maintenance and operation of highway traffic signals involving State Highways by an agency other than the California Department of Transportation shall require a jointly approved written agreement.”

Section 9-03.15. Right Turn Arrow**Change the third paragraph to read:**

“A right-turn green arrow should be considered for use only when there is a right-turn lane or it is the only movement that traffic is permitted to make.”

Section 9-04.6 Red Clearance Interval**Change the last paragraph to read:**

“The red clearance interval is an all-red period that may be used to partially or fully clear motorists who are proceeding through the intersection at the end of the yellow change interval. It may also be used to help clear vehicles that are queued within the intersection due to the lack of gaps for permissive left turns or other reasons.”

Section 9-03.12 Location Of Signal Faces**In the first paragraph, change the third sentence to read:**

“However, it is desirable to locate the signal faces on separate standards in order to provide maximum visibility on the controlled approach and minimum visibility on the cross-street approach.”

In paragraph two, first sentence, replace the words “in line with” with “in the center of”.

Section 9-03.35 Temporary Signals for Haul Roads or One-Way Control in Construction Zones**Change the title in item # 2 to read: “Requirements”****Change item 2D to read:**

“Timing of the signals will be determined by the Traffic Engineer having jurisdiction.”

Section 9-03.3 Selection of Left-Turn Phasing**Change the second paragraph to read:**

“If the left turn volume is 300 or more vehicles per hour, or if excessive left-turn delay is documented with one left-turn lane, consideration should be given to a two-lane left turn.”

Section 9-03.4 Simultaneous or Dual Left**Change the section title to read: “Dual Left”**

02-13 PROPOSED CHANGES TO CHAPTER 9 -TRAFFIC SIGNALS AND LIGHTING

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Section 9-03.7 Three-Phase Operation**Replace the first two sentences with the following:**

“ Three phase operation can be either pretimed or traffic-actuated.”

Section 9-03.8 Permissive Left Turn Phasing**In paragraph 5, replace change the words “Local authorities” with “Operating agencies”.****Section 9-03.24 Vehicle Detectors****Delete item #4 “Pressure Sensitive.”****Add the following:**

“4. Video.

Detect vehicles passing through the field of view of a CCTV camera or image sensor. Useful in areas free of extreme lighting changes or severe weather conditions which could obscure visibility. “

Section 9-03.27 Signal Plan Schedule**Under item # 2 replace the first line to read:**

“A conductor and conduit schedule shows the size and number of conductors in each conduit run, unless multi-conductor cable is used.”

Section 9-04.2 Review of Traffic Signal Operation**Change item # 2 to read:**

“Time-of-Day or Traffic Responsive Settings”.

Change the last paragraph to read:

“ Timing records shall be kept and be readily available to maintenance and service.”

Section 9-05.1 Introduction**Change item # 4 to read:**

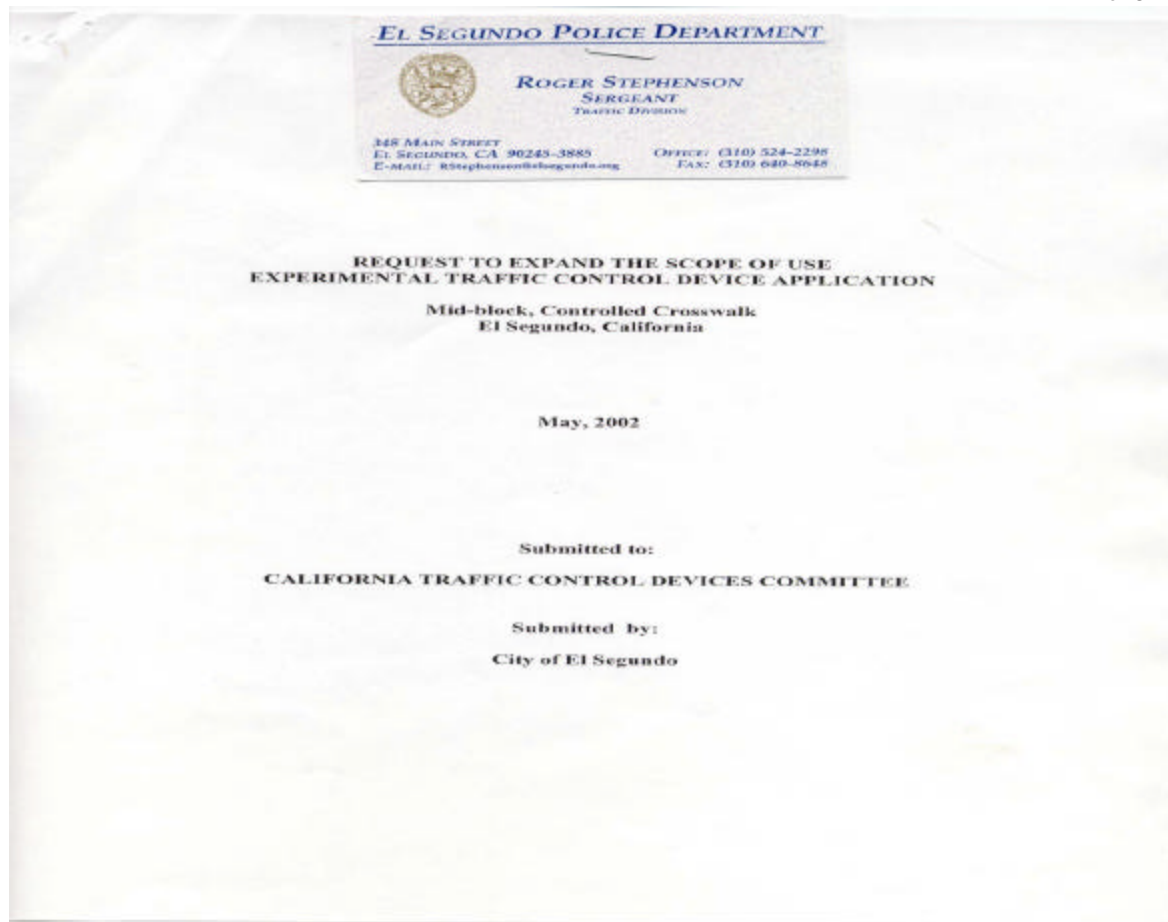
“At intersections where a more visible warning is desired”.

Section 9-05.2 Signal Ahead Flashing Beacon**Change item # 3 to read:**

- “3. Any traffic signal with limited approach visibility, or
4. Where approach speeds exceed 80 Km/h (50 mph)”.

99-18 **GROUND MOUNTED LED LIGHTS ON STOP BARS**

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99-18 GROUND MOUNTED LED LIGHTS ON STOP BARS

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**El Segundo Police Department**

348 Main Street • El Segundo, California 90245-3885
(310) 524-2390 • Fax: (310) 640-8648

Jack Wayt, Chief of Police

April 24, 2002

To: California Traffic Control Devices Committee
From: The City of El Segundo, Sergeant Roger Stephenson
Subject: Agenda Item: 99-18 Ground Mounted LED Lights

It is requested that the City of El Segundo's application to request the expansion of the use of experimental traffic control devices, namely, in-ground, LED lighting to enhance visibility at a targeted crosswalk be considered and included into the discussion of Agenda item 99-18. Due to organizational commitments, I will be unable to attend the meeting scheduled for May 8, 2002. I would further request that this application be read into the official record.

It is my understanding that an official request for expanding the scope of use for this type of device was made at a previous meeting.

Please do not hesitate in contacting if additional information is required


Sgt. Roger Stephenson
310-524-2298

"Working together to meet our community's needs"

99-18 GROUND MOUNTED LED LIGHTS ON STOP BARS

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BACKGROUND

The City of El Segundo is home to approximately 16,000 residents, but is also an employment center for high technology, aerospace, and heavy industry. Additionally, it serves as headquarters for many companies including Mattel, Oracle, DIRECTV, Chevron/Texaco. As a result, daytime population swells to in excess of 70,000. It is uniquely situated just south of Los Angeles International Airport and is bordered by two major freeways. Several large arterial highways, including SR1 (Sepulveda Blvd/Pacific Coast Highway) also transect the community.

Recent development of "corporate campuses" has brought together high-density office buildings and entertainment/restaurant/hotel/retail complexes. The "Rosecrans Corridor" (named after Rosecrans Avenue), bisects the south border of El Segundo and the north border of the City of Manhattan Beach. This type of development and the interaction between the motoring public and pedestrians walking to/from their place of employment to restaurant/entertainment venues has created a circumstance in which the City of El Segundo is requesting authorization to experiment with the new application of an existing traffic control device (LED lighting at ground level across the length of the crosswalk) to increase visibility at a controlled, mid-block crosswalk.

Figure 1 (attached photos) shows the location of the area in question. The complex on the west side of Nash Street consists of a 16-screen movie theater, three restaurants, several retail establishments, a multi-level parking structure, and corporate offices. On the east side of Nash Street, a large parking structure services numerous high-rise office buildings. (attached roadway "stripping map") Additionally, within several hundred yards, there exists a hotel, several additional restaurants, office buildings, and retail outlets. Across Rosecrans Avenue, in the City of Manhattan Beach, a large hotel with convention facilities, heavy retail, and in excess of ten restaurants are within walking distance to the area of concern.

The north/south roadway is Nash Street; it bisects to the south with Rosecrans Avenue and intersects with Park Place to the north. A mid-block, controlled (signalized) crosswalk traverses Nash Street and leads from the parking structure/office/restaurant complex on the east to the theater/restaurant complexes on the west. On Friday and Saturday evenings/night, the theaters can host several thousand guests and the restaurants serve hundreds if not over a thousand diners.

PROBLEM STATEMENT

The study area, the mid-block, controlled crosswalk is of particular concern since customers/patrons traverse the roadway, both in vehicles and on foot. Because of visual stimuli; theater lines, multiple parking options, time constraints with "getting to the movie on-time", and the reality of alcohol consumption at the restaurants, vehicular/pedestrian interactions have and do occur. Violations of the stop line are frequent as well as pedestrians "jaywalking" in or out of the crosswalk. Special

99-18 GROUND MOUNTED LED LIGHTS ON STOP BARS

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enforcement details targeting these types of violations generate 20-30 citations in several hours work.

The nature of theater and restaurant patrons is that traffic volume, both vehicular and pedestrian, surges throughout the evening/night. A recent (9/2001) traffic count revealed 3644 vehicles traveled north/south on Nash Street in the area of question between 5pm and 1am on the surveyed Friday night. On Saturday, during the same time frame, 3189 vehicles traversed the location.

PROPOSED EXPERIMENT

The City's request is to add LED lights across the length of the crosswalk controlling north/south traffic. These lights would be at ground level and would increase visibility of the crosswalk for north/south traffic.

The lights would work in conjunction with the traffic signal controller so they would flash/strobe when the north/south yellow signal is activated. As the signal phases to red, the LED lights would change to solid red. A green signal phase would extinguish the LED lights. So as to maintain consistency and clarity with the motoring public's understanding of lighting colors, yellow (caution) and red (stop) LED's are only to be considered. The solid red lighting at the crosswalk will only enhance the safety for pedestrians legally using it.

DEVIATION FROM STANDARD APPLICATION

The proposed experiment uses flashing and solid LED lights to supplement and enhance the existing traffic signals at the mid-block crosswalk in question. This type device has only been used at un-controlled, mid-block crosswalks and the City's request expands the scope of use.

EXPECTED IMPROVEMENT

The expected improvement as a result of the proposed, experimental implementation is the increased visibility of the crosswalk for north/south traffic. To evaluate the improvement, motorist's adherence to the stop line as well as pedestrian compliance with the existing traffic signal will be measured before and after installation of the in-ground LED lights.

SUPPORTING DATA

The proposed experiment was developed after numerous attempts to increase visibility and protection levels have not been satisfactory. Prior actions include the following:

- Task-force style special enforcement details targeting both vehicles and pedestrians.
- Installation of signage directing pedestrians to the crosswalk.

99-18 GROUND MOUNTED LED LIGHTS ON STOP BARS

P 5 of 5

- Modification of parking signage along both east/west curb lines (No Stopping/Parking).
- Enhancement of security by uniformed personnel, both private and law enforcement.

The only option that would reduce, but not absolutely prevent vehicular/pedestrian interactions would be the installation of a pedestrian bridge, which is economically unfeasible.

OTHER APPLICATIONS

Installation of LED lights at ground level across the length of a stopbar or crosswalk has been made in approximately 75 locations in the United States, including 10-15 in California. This includes the cities of Anaheim and Santa Monica.

Studies funded by Caltrans have reported the following conclusions¹:

- Flashing, imbedded lighting in the roadway at uncontrolled crosswalks have a positive effect on increasing driver awareness
- The effect is highly significant during darkness, fog, and rain.
- The system is particularly effective at locations with at least moderate pedestrian flow (100+ crossings a day).

A progress report prepared for the City of Anaheim by Kaku Associates, Inc., revealed significant reductions in Red Light and Creep Over Stop Line violations and increased Stop Line adherence since the installation of in-ground LED lighting.²

DATA COLLECTION

The primary data collection methodology will be before and after, targeted observation of pedestrian/vehicular compliance with enhanced crosswalk traffic control devices. Police department personnel (non-uniformed) will conduct before/after surveys on peak traffic nights on a semi-annual basis. With the installation of the LED lighting, a lasting, positive effect on pedestrian safety is anticipated.

¹ Weinberger, S. "Experimental Crosswalk Warning Device Testing in California" Compendium of Technical Papers from the 1997 technical conference, Institute Of Transportation Engineers.

² Kaku Associates, Inc. "Forth Progress Report", Stopline LED Lights, Experimental Traffic Control Device Application, June, 2001.

02-12 PEDESTRAIN COUNTDOWN SIGNAL HEADS

P 1 of 1

During the May 8, 2002 meeting, Committee members suggested placing PCSHs on the agenda for the August meeting to discuss reports submitted by various agencies on the ongoing experimentation. The Committee believes that there is a demand to install these devices. The final reports submitted by the City of Fountain Valley, the City of San Jose and partial study presented by the City of San Francisco indicated that the devices were proven helpful in improving the pedestrian crossings.

02-11 SPEED FEEDBACK (Radar Speed) SIGN

P 1 of 4

**CITY OF GARDEN GROVE**

Bruce A. Broadwater
Mayor
Van T. Tran
Mayor Pro Tem
William J. Dalton
Councilman
Mark Lyles
Councilman
Mark Rosen
Councilman

July 9, 2002

Mr. John Fisher
City of Los Angeles Department of Transportation
221 North Figueroa Street, Room 500
Los Angeles, CA 90012

PROPOSAL FOR EXPERIMENTAL USE OF A NON-STANDARD TRAFFIC CONTROL DEVICE – RADAR SPEED SIGNS

The City of Garden Grove requests permission to conduct an experiment using active radar speed signs as a non-standard traffic control device to determine its effectiveness in reducing speeds around school zones.

1. PROBLEM STATEMENT

Traffic safety conditions in the City of Garden Grove are increasingly demanding for children, calling for greater awareness than ever before. Sight distance is obstructed, approach speed is relatively high, and traffic volume is heavy at critical crossing locations where many children are present. School-age children are especially vulnerable to pedestrian crashes. They are often small in stature and difficult for drivers to see. Children can also lack good judgment when crossing streets.

Existing Conditions

All of the proposed five (5) locations currently have pedestrian actuated traffic signals. All schools also have frontage on arterial streets with multi-lanes except for one (1). The attached maps show locations of the schools along with average daily trips (ADT) and posted speed limits. The City's current speed survey posted speed limits for 35-40 mph on these roadways. It is very difficult for drivers to slow down to a school zone speed of 25 mph when the posted speed limit for the street is 35 mph or 40 mph. These conditions create a hazardous traffic environment for schoolchildren.

Statistical Data

According to the California Office of Traffic Safety, for 1999 the City of Garden Grove ranked 16th out of 45 cities for pedestrian and 19th out of 45 cities for bicyclists involved fatal and injury collisions (under 15 years of age) within our population group (100,001 to 250,000).

According to the high incident report, there have been six (6) pedestrian and eight (8) bicycle related accidents within a few blocks (< 2000 feet) away from these schools in the last five (5) years.

02-11 SPEED FEEDBACK (Radar Speed) SIGN

P 2 of 4

Proposal for Experimental Use of a Non-standard Traffic Control Device—Active Radar Speed Signs
July 10, 2002
Page 2 of 4

2. PROPOSED SOLUTION

The City of Garden Grove wishes to participate in the experimentation of the Active Radar Speed Signs at five (5) high-volume, high speed school crossings. These permanent signs will offer state-of-the-art solutions to improve sign visibility, alert drivers, and protect children at school crossings. The Driver Feedback Speed Sign gives the motorist passing through a school zone real-time feedback as to their vehicle's speed. If the driver's speed exceeds the posted speed limit by more than 5 mph, LEDs will flash to further alert the driver. The design features for the cabinet mounted switch option are attached to the report.

The proposed locations are: Walton Intermediate, Bell Intermediate, Enders Elementary, Wakeham Elementary, and Meairs Elementary. One (1) sign will be posted in each direction in front of each school. One of the main reasons of seeking CTCDC's permission is to receive funding approval from the Office of Traffic Safety in experimenting the active radar speed signs.

3. OBJECTIVE

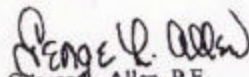
The objective of the test will be to determine the usage and effectiveness of the radar speed signs in reducing speeds and thereby improving pedestrian safety.

4. EXPERIMENT SCHEDULE

- Pre-installation Evaluation.....August to December 2002
- Installation.....January to March 2003
- Experimental Period.....April to September 2003
- Evaluation of Results.....September to November 2003

We appreciate your consideration of this request. The City of Garden Grove is looking forward to receiving a positive response from the Committee. Please feel free to call me at (714) 741-5190 if you have any questions or comments.

Sincerely,


George L. Allen, P.E.
Traffic Engineer

Enclosure

02-11 SPEED FEEDBACK (Radar Speed) SIGN

P 3 of 4

Proposal for Experimental Use of a Non-standard Traffic Control Device—Active Radar Speed Signs
July 10, 2002
Page 3 of 4

**PROPOSAL TO THE CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE FOR
EXPERIMENTATION OF A NEW TRAFFIC CONTROL DEVICE:
ACTIVE RADAR SPEED SIGNS**

SCOPE

The City of Garden Grove proposes to experiment Active Radar Speed Signs to improve pedestrian safety. Radar signs have already been installed in such cities as San Jose and have shown positive results. Speeds dropped as much as 17 percent, and one out of every five cars passing the sign slowed down. Attached to the report is the article.

The City has tentatively selected the following 5 school locations for the experiment of radar speed signs:

- | | |
|------------------------|----------------------|
| 1) Bell Junior High | 12345 Springdale St. |
| 2) Enders Elementary | 12302 Springdale St. |
| 3) Meairs Elementary | 8441 Trask Ave. |
| 4) Wakeham Elementary | 7772 Chapman Ave. |
| 5) Walton Intermediate | 12181 Buaro St. |

WORKPLAN**Installation**

The active radar speed signs will be installed as an integral part of the existing signal pole. There will be no adjustments to existing traffic control devices in the proposed area.

Evaluation

Effectiveness and acceptance will be measured in accordance with the time period and evaluation procedures shown below.

Time Period

The schedule for testing is as follows:

- Pre-installation Evaluation.....August to December 2002
- Installation.....January to March 2003
- Experimental Period.....April to September 2003
- Evaluation of Results.....September to November 2003

EVALUATION PROCEDURES

The City of Garden Grove requests that the Committee approve the preliminary evaluation plan outlined below. Other criteria and procedures may evolve during the evaluation period. These additional ways of evaluating the use of radar signs and any changes in procedures added to the assessment criteria will be discussed in the scheduled reports submitted to the project sponsor and the Committee.

- a. Installation Documentation – to be prepared by the City of Garden Grove personnel.
- b. Maintenance Recording – to be performed throughout the life of the experimentation period. A separate maintenance log sheet will be created for each site. Periodic inspections will be performed and logged by City of Garden Grove personnel.
- c. Accident data will be monitored and analyzed by the City of Garden Grove personnel.

02-11 SPEED FEEDBACK (Radar Speed) SIGN

P 4 of 4

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Proposal for Experimental Use of a Non-standard Traffic Control Device—Active Radar Speed Signs
July 10, 2002
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- d. Observation will be conducted to determine the effectiveness of the operation. Public input from the school district as well as the PTAs will be used to help document the progress of the program as well as for reporting to the Committee, Caltrans, and other interested agencies.

Measures of effectiveness and acceptance during the before and after the testing period may include, but are not limited to, the following actions:

- i. Compare the total number of pedestrian accidents or the pedestrian accident rates
- ii. Conduct speed surveys

ADMINISTRATION

Sponsoring Agency: City of Garden Grove

Contact Information: George L. Allen, P.E.
Traffic Engineer, City of Garden Grove
Tel: (714) 741-5190
Fax: (714) 741-5578
E-mail: georgea@ci.garden-grove.ca.us

Manufactures: Vendors to be determined by August 2002

Installations: To be installed by the City of Garden Grove traffic personnel

DISCUSSION ITEMS

P 1 of 1

02-5 ESTABLISHMENT OF SPEED LIMIT ZONES BASED ON THE ENGINEERING AND TRAFFIC SURVEY

Jacob Babico apprised the Committee that the County of San Bernardino CHP area enforce the speed limit established based on the Radar Speed Survey. The CHP do not use the traffic study as justification to enforce the zone. CVC section 627 has a clear definition of "ENGINEERING AND TRAFFIC SURVEY" which states: "as used in this code, means a survey of highway and traffic conditions in accordance to methods determined by the Department of Transportation for use by state and local authorities." The County has posted a 45 M.P.H. speed limit signs based on engineering study rather than radar speed survey, but the 85th percentile was over 55 M.P.H. Jacob requested for Committee comments on this issue.

02-12 WHEN CHILDREN ARE PRESENT SIGN (R72)

P 1 of 3

**Superior Court of California
County of Santa Clara**

Superior Court Building
191 North First Street
San Jose, California 95113
(408) 270-2074

Clonides H.
James L. Heath, Commissioner

February 22, 2002

Sergeant Michael Alameda #T34
Traffic Supervisor
Campbell Police Department
Traffic Unit
City of Campbell
70 North First Street
Campbell, CA 95008-1497

Dear Sergeant Alameda,

Thank you for your letter of February 20, 2001, regarding the issue:

What is the appropriate sign posting for a school zone, pursuant to California Vehicle Code Section 22352 (a)(2)(B)?

I

Introduction:

Since the State Legislature did not proscribe that: "...the speed limit shall be effective when appropriate signs giving notice thereof are erected upon the highway..." all of the prima facie speed limits set in California Vehicle Code Section 22352 do not require signposting. It is apparent therefore that the State Legislature gives the motoring public more credit than they deserve.

From my point of view and I'm sure from yours, that even though signposting is not necessary 1) in the 15 mile per hour zones of railway grade crossings, blind uncontrolled intersections, and alleys (i.e. C.V.C. 22352(a)(1)(A) through (C)), 2) in the 25 mile per hour zones of Business and Residential districts, (C.V.C. 22352(a)(2)(A)), 3) in the 25 mile per hour School Zones of (C.V.C. 22352(a)(2)(B)), and 4) in the 25 mile per hour Senior Zones of (C.V.C. 22352(a)(2)(C)), neither of us would advocate that erection of these signs (although advisory) should be suspended. That although the Motoring Public is presumed to know these limits, from a safety point of view, they should be reminded.

I



| | | | | | |
|-------------------|-------------|---------|-------------|------------|---|
| Post-it® Fax Note | 7871 | Date | 4-25-02 | # of pages | 3 |
| To | Wayne Tanda | From | Matthew Jue | | |
| Co./Dept. | SJ DOT | Co. | Campbell | | |
| Phone # | | Phone # | 866-2154 | | |
| Fax # | 286-7470 | Fax # | 376-0958 | | |

Judge Heath R: "When Children Are Present" Signs

II

"When Children are Present", issue

Clearly a sign indicating "When Children are Present" is not in conformance with meaning of (C.V.C. 22352(a)(2)(B) which reads in part: "...while children are going to or leaving the school either during school hours or during the noon recess period." Apparently, this is too wordy to place on a sign.

The verbiage "When Children are Present" does not denote the proper conduct that is proscribed by this law. Children do not have to be present, to make this section applicable. It's not the presence of the Children that requires the reduction in speed, but a time restriction. All too often do I hear from a citee that "there were no kids around." The State Legislature obviously did not want motorists entering a school zone from a 35 or 40 mile per hour zone, taking his/her eyes off the road, to look about for the presence of a child.

We are required by Law, and we are presumed to know, that when we enter a school zone we are aware 1) whether or not the school is in session, 2) what time children are going to or leaving the school, and 3) what time the noon recess period starts and ends.

III

Is the signage "School" alone, an appropriate designation under California Vehicle Code Section 22352(a)(2)(B)?

No. The statute provides that the school zone is to be "...posted with a standard 'SCHOOL' warning sign..." What this verbiage does, is defers the matter to the California Department of Transportation to establish standards and specifications by its Regulations. What controls the specific signage, is not the Vehicle Code Legislation, but the DOT Regulations.

The Department of Transportation has enacted THE CALIFORNIA TRANSPORTATION TRAFFIC MANUAL, which under Section 10-03.8 Policy for School Area Signs, designates the appropriate signs required one set if the preceding zone is 25 mph, and another set of signs if the preceding zone is greater than 25 mph.

Therefore it is the Department of Transportation that utilizes the language "when children are present" and not our State Legislature.

If we have an objection to this verbiage, it must be lodged with the DOT.

I can understand why the Traffic Engineering Department is reluctant to change the signage, since it is only following the regulations set by the Department of Transportation (i.e. under THE CALIFORNIA TRANSPORTATION TRAFFIC MANUAL, under Section 10-03.8 Policy for School Area Signs). To divert from the requirements of these Regulations could possibly subject the Engineers Public Entity to Civil Liability exposure.

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DEPT. OF STREETS & TRAFFIC

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IV

Conclusion

This controversy is not unhealthy. It will bring to the attention of a portion of our Motoring Public the particular conduct that is required by Section C.V.C. 22352(a)(2)(B). Whether our efforts can solve the problem (i.e. adequate signage) is doubtful, but we can do what we can from our respective positions to educate that Motoring Public that we contact, what is a school zone, and when they should slow to 25 mph, under the provisions of the California Vehicle Code.

I'm enclosing a copy of THE CALIFORNIA TRANSPORTATION TRAFFIC MANUAL, Section 10-03.8 Policy for School Area Signs (i.e. which show the "appropriate" signs to be erected by the Traffic Engineering Departments)

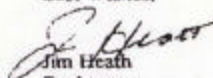
Also enclosed is the Gary Richard's Mercury News Article of February 14, 2002 (which you have undoubtedly seen).

And finally, I'm enclosing a comprehensive annotation of California Vehicle Code Section 22352, for your records (there's a lot of Law on the matter, but little on sign posting).

Well it looks like, once again, you cite 'em, the motorist fights 'em, I decide 'em, but, unfortunately, the DOT confuses 'em, and will continue to do so (not all, but some, Thank Heavens!).

If I can be of any further assistance please don't hesitate to contact me.

Best Wishes,


Jim Heath
Enclosures

TABLED ITEM

P 1 of 1

01-11 PORTABLE OR TEMPORARY SPEED DISPLAY SIGN

Proposed Revision No. 2 Page 2B-15

Section 2B.11 Speed Limit Sign (R2-1)**Standard:**

After an engineering study has been made in accordance with established traffic engineering practices, the Speed Limit (R2-1) sign (see Figure 2B-1) shall display the limit established by law, ordinance, regulation, or as adopted by the authorized agency. The speed limits shown shall be in multiples of 10 km/h (5 mph).

Guidance:

States and local agencies should reevaluate the non-statutory speed limits on their streets and highways at least once every 5 years to determine if any adjustments would be appropriate. No more than three speed limits should be displayed on any one Speed Limit sign or assembly. When a speed limit is to be posted, it should be the 85th-percentile speed of free-flowing traffic, rounded up to the nearest 10 km/h (5 mph) increment on non-residential streets and rounded up or down to the nearest 10 km/h (5 mph) increment on residential streets.

Option:

Other factors that may be considered when establishing speed limits are the following:

- A. Road characteristics, shoulder condition, grade, alignment, and sight distance;
- B. The pace speed;
- C. Roadside development and environment;
- D. Parking practices and pedestrian activity; and
- E. Reported crash experience for at least a 12-month period.

Two types of Speed Limit signs may be used: one to designate passenger car speeds, including any nighttime information or minimum speed limit that might apply; and the other to show any special speed limits for trucks and other vehicles.

A changeable message sign that changes the speed limit for traffic and ambient conditions may be installed provided that the appropriate speed limit is shown at the proper times.

A changeable message sign that displays to approaching drivers the speed at which they are traveling may be installed in conjunction with a Speed Limit sign.

Guidance:

If a changeable message sign displaying approach speeds is installed, the legend YOUR SPEED XX km/h (MPH) or such similar legend should be shown.

Support:

Advisory Speed signs are discussed in Sections 2C.33 and 2C.42 and Temporary Traffic Control Zone Speed signs are discussed in Part 6.

CORRESPONDENCES/MISCELLANEOUS**San Jose Mercury News (CA)**

February 14, 2002

Section: Local

Edition: Morning Final

Page: 2B

Memo: Roadshow

RULES ON WHEN TO OBEY SPEED LIMIT NEAR SCHOOLS*GARY RICHARDS column***Q**

Dear Gary, fount of all knowledge: I'm in favor of **school** zone speed limits of 25 mph, providing it is obvious when the limit applies. I received a ticket for exceeding the 25-mph limit near Rosemary **School** at 7:28 a.m. recently. No children or crossing guards were in view. **School** does not start until 8:15 a.m. Since it was early and there were no kids, I assumed that the 25-mph limit was not yet in effect. Another **school** has a speed limit of 25 mph "When Children Are Present." I assume that means if you can see a kid, the limit applies. But in Campbell, there is no clue. I asked the officer, who was very nice, when the limit applies and he said, "Whenever there is a possibility of children being present." What does that mean?

John Arnold

Saratoga

A

Here are the rules according to police and traffic court commissioners:

(box) The **school** zone limit is in effect whenever you see children on a **school** day.

(box) The **school** zone is also in effect during times kids would be going to **school**, heading home or during a noon recess. Hours vary from **school** to **school**. Said one traffic cop: If I was going to give you my opinion of when to be careful, it would be from 7 to 9 a.m., 11 a.m. to 1 p.m. and 2 to 4 p.m.

(box) If there is a crossing guard out, the 25-mph-limit is in effect.

(box) Children do not need to be present for the 25-mph **school** zone to be enforced. If motorists wait until they see a child to slow down, they probably are going to be inside the **school** zone traveling at a unsafe speed.

(box) A **school** zone extends 500 feet on each side of the **school**.

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Q

Is there any hope that a standard could be established for **school** signs that would be meaningful to drivers? The best I've seen are overhead yellow flashing lights with a sign that says "**School** Zone 25 mph When Flashing." You could become a national hero if you take this cause and run with it. Something as important as our children's lives should be clear.

John Arnold

A

Flashing lights are an excellent -- but expensive -- idea, costing about \$2,000 apiece. San Jose is testing **school** speed radar signs that show the speed limit and flash your speed if you are going too fast.

These signs are more effective, cheaper and are being tested on Pearl Avenue near Erikson **School**. An additional 10 signs are planned.

Section 3B.13 Raised Pavement Markers Supplementing Other Markings

Guidance:

The use of raised pavement markers for supplementing longitudinal line markings should conform to the following:

A. Lateral Positioning

1. When supplementing double line markings, pairs of raised pavement markers placed laterally in line with or immediately outside of the two lines should be used.
2. When supplementing wide line markings, pairs of raised pavement markers placed laterally adjacent to each other should be used.

B. Longitudinal Spacing

1. When supplementing solid line markings, raised pavement markers at a spacing no greater than N (see Section 3A.06) should be used, except when supplementing left edge line markings, a spacing no greater than N/2 should be used. **Raised markers should not supplement right edge line markings unless they are spaced closely enough (no greater than 3 m (10 ft) apart) to approximate the appearance of a solid line.**
2. When supplementing broken line markings, a spacing no greater than 3N should be used. However, when supplementing broken line markings identifying reversible lanes, a spacing no greater than N should be used.
3. When supplementing dotted line markings, a spacing appropriate for the application should be used.
4. When supplementing longitudinal line markings through at-grade intersections, one raised pavement marker for each short line segment should be used.
5. When supplementing edge line extensions through freeway interchanges, a spacing of N should be used.

Option:

Raised pavement markers also may be used to supplement other markings for channelizing islands or approaches to obstructions.